

PROPOSED REGULATION ORDER

Amend, adopt or repeal the following sections of title 13, California Code of Regulations, to read as set forth in the following pages:

Amend:	
Section 2023.1	Fleet Rule for Transit Agencies-Urban Bus Requirements
Section 2023.3	Zero-Emission Bus Requirements
Section 2023.4	Reporting Requirements for Transit Agencies

Note: In this Proposed Regulation Order, the proposed amendments are shown in single underline to indicate additions and ~~single-strikeout~~ to indicate deletions. On July 28, 2006, the Air Resources Board submitted to the Office of Administrative Law (OAL) amendments that add subsections 2023.1(a)(4) and (5), and 2023.4(b)(4) and had been approved by the Air Resources Board at hearings on September 15 and October 20 and 27, 2005. OAL has until September 12, 2006 to determine whether to approve the amendments, which are shown here in *times new roman italics*. All of the amendments in that rulemaking can be found at <http://www.arb.ca.gov/regact/sctransit/fro.pdf>. Subsection headings are shown in *italics* and are to be italicized in Barclays California Code of Regulations.

§ 2023.1 Fleet Rule for Transit Agencies – Urban Bus Requirements.

- (a) To encourage transit agencies that operate urban bus fleets to purchase or lease lower emission alternative-fuel buses, while also providing flexibility to such fleet operators to determine their optimal fleet mix in consideration of such factors as air quality benefits, service availability, cost, efficiency, safety, and convenience, two paths to compliance with this fleet rule are available: the alternative-fuel path and the diesel path.
- (1) Transit agencies must choose their compliance path, and shall notify ARB of their intent to follow either the diesel or the alternative-fuel path, by January 31, 2001. Reporting requirements for that notification are set forth in subdivisions (a) and (b) of section 2023.4, title 13, CCR.
- (2) A transit agency within the jurisdiction of the South Coast Air Quality Management District may elect to change its compliance path from the diesel path to the alternative-fuel path, provided that the transit agency notifies the Executive Officer of the change by January 31, 2004, and provided that the transit agency is in compliance with all requirements of section 2023.1, including specific requirements of the diesel path, on or before January 1, 2004. Reporting requirements for this notification are set forth in paragraph (b)(3) of section 2023.4, title 13, CCR.
- (3) A new transit agency that is a successor to an existing transit agency or that has been created from a merger of two or more transit agencies or parts of two or more transit agencies must have the same compliance path as the transit agency or agencies out of which it is formed.
- (4) *A transit agency within the jurisdiction of the South Coast Air Quality Management District shall follow the alternative-fuel path. If the transit agency had previously stated its intent to follow the diesel path, the change to the alternative-fuel path shall be effective on [Insert effective date of subsection].*
- (5) *Transit agencies on the diesel path with more than 30 buses in their fleets purchasing model year 2007 through 2009 urban buses that are not certified at or below 0.2 g/bhp-hr NOx emission level shall:*
 - (A) *Mitigate the increased NOx emissions for each urban bus purchased by retrofitting an existing urban bus or transit fleet vehicle within the fleet with a level 3 particulate matter (PM) verified diesel emission control strategy with an oxides of nitrogen (NOx) reduction efficiency of at least 40 percent, if available, otherwise, with a NOx reduction efficiency of at least 25 percent. This retrofit requirement applies on a one-to-one basis until all diesel urban buses and transit fleet vehicles within the transit*

agency's fleet are either retrofitted or are determined to be unable to be retrofitted as specified in (B) below.

- (B) *Obtain Executive Officer approval for purchasing a 2007 through 2009 model year urban bus not subject to (A) above by submitting to the Executive Officer a report 90 days prior to the delivery of the urban bus. The report shall provide information that demonstrates that all vehicles in the transit agency's fleet have been retrofitted or are determined to be unable to be retrofitted including when the inability to retrofit occurs for reasons other than a device not verified for the specific urban bus or transit fleet vehicle engine family.*
- (C) *Submit annual reports that meet the requirements in section 2023.4(b)(4).*

(b) Transit agencies on the alternative-fuel path shall meet the following requirements:

- (1) Upon approval of the regulation, and through Model Year 2015, at least 85 percent of all urban buses purchased or leased each year must be alternative-fuel buses or buses with engines purchased under paragraph (b)(9).
- (2) NOx fleet average requirements as set forth in subdivision (d), below.
- (3) Beginning October 1, 2002, only engines certified to an optional PM standard of 0.03 g/bhp-hr or lower shall be purchased when making new bus purchases.
- (4) Total diesel PM emission reduction requirements and use of low-sulfur or other allowed fuel as set forth in subdivision (e), below.
- (5) Transit agencies on the alternative-fuel path shall not purchase any diesel-fueled, dual-fuel, or bi-fuel buses with 2004 - 2006 model year engines certified to emissions levels in excess of those specified in paragraph (a)(11) of section 1956.1, title 13, CCR, except as provided in paragraph (b)(8) or (b)(9) of this section.
- (6) Zero-emission bus purchase requirements for transit agencies opting out of the advanced demonstration will align with the diesel path agencies and beginning in model year 20102011, in accordance with the requirements set forth in subdivision (c) of section 2023.3, title 13, CCR.
- (7) Reporting requirements as set forth in section 2023.4, title 13, CCR.
- (8) The Executive Officer may exempt transit agencies on the alternative-fuel path from the requirements of paragraph (b)(5) of section 2023.1, title 13, CCR, provided that:

- (A) A transit agency applies to the Executive Officer for such exemption by June 30, 2001;
 - (B) A transit agency demonstrates to the Executive Officer that it will achieve NOx emissions benefits through 2015 greater than what would have been achieved through compliance with paragraph (b)(5); and
 - (C) The Executive Officer finds that transit agencies, after consulting with the Engine Manufacturers Association, have demonstrated, or are contractually committed to demonstrate, advanced NOx aftertreatment technology.
- (9) A transit agency on the alternative-fuel path may purchase a bus operated with a heavy-duty pilot ignition engine provided the engine meets the standards set forth in subdivision (b) of section 1956.1, title 13, CCR.
- (10) Purchase requirements for a transit agency participating in a zero-emission bus demonstration (as defined in subdivision (b) of section 2023.3, title 13, CCR) will begin with model year 2012 in accordance with the requirements set forth in subdivision (c) of section 2023.3, title 13, CCR.
- (c) Transit agencies on the diesel path shall meet the following requirements:
- (1) NOx fleet average requirements as set forth in subdivision (d), below.
 - (2) Total diesel PM emission reduction requirements and use of low-sulfur or other allowed fuel as set forth in subdivision (e), below.
 - (3) Zero-emission bus demonstration as required in subdivision (b) of section 2023.3, title 13, CCR.
 - (4) Transit agencies on the diesel path shall not purchase any diesel-fueled, dual-fuel, or bi-fuel buses with 2004 - 2006 model year engines certified to emissions levels in excess of those specified in paragraph (a)(11) of section 1956.1, title 13, CCR, except as provided in paragraph (c)(7) or (c)(8) of this section. Beginning July 1, 2003, a transit agency may not purchase alternative fuel buses certified to a PM emission level in excess of the optional standard of 0.03 g/bhp-hr when making new bus purchases.
 - (5) Zero-emission bus purchase requirements beginning in model year ~~2008~~2011, in accordance with the requirements set forth in subdivision (c) of section 2023.3, title 13, CCR.
 - (6) Reporting requirements as set forth in section 2023.4, title 13, CCR.

- (7) The Executive Officer may exempt transit agencies on the diesel path from the requirements of paragraph (c)(4) of section 2023.1, title 13, CCR, provided that:
 - (A) A transit agency applies to the Executive Officer for such exemption by June 30, 2001;
 - (B) A transit agency demonstrates to the Executive Officer that it will achieve NOx emissions benefits through 2015 greater than what would have been achieved through compliance with paragraph (c)(4); and
 - (C) The Executive Officer finds that transit agencies, after consulting with the Engine Manufacturers Association, have demonstrated, or are contractually committed to demonstrate, advanced NOx aftertreatment technology.
- (8) A transit agency on the diesel-fuel path may purchase a bus operated with a heavy-duty pilot ignition engine provided the engine meets the standards set forth in subdivision (b) of section 1956.1.
- (9) The Executive Officer shall authorize, in writing, a transit agency on the diesel path to purchase one or more diesel-fueled hybrid-electric bus certified under title 13, CCR, section 1956.1(a)(11)(B) provided that:
 - (A) The transit agency shall submit a mitigation plan and letter requesting approval by January 31, 2005, to the Executive Officer that demonstrates that the transit agency will provide surplus emission reductions from urban buses in its fleet that will offset the NOx emission difference between the certified NOx emission standard of the hybrid-electric bus and 0.5 g/bhp-hr. The transit agency may not use NOx emission reductions that are otherwise required by any statute, regulation, or order or the emission reductions that will accrue from the retirement of an urban bus to be replaced by a hybrid-electric bus for the offset;
 - (B) The transit agency shall complete implementation of all mitigation measures set forth in the approved plan to offset NOx emissions prior to the receipt of the last diesel-fueled hybrid-electric bus; and
 - (C) The transit agency shall submit the reports required by section 2023.4(g).
- (d) Beginning October 1, 2002, no transit agency shall own, operate, or lease an active fleet of urban buses with average NOx emissions in excess of 4.8 g/bhp-hr, based on the engine certification standards of the engines in the active fleet.

- (1) This active fleet average requirement shall be based on urban buses owned, operated, or leased by the transit agency, including diesel buses, alternative-fuel buses, all heavy-duty zero-emission buses, electric trolley buses, and articulated buses, in each transit agency's active fleet. The Executive Officer may allow zero-emission buses that do not meet the definition of an urban bus to be included in the calculation of the fleet average standard upon written request to the ARB by January 31, 2002, and upon approval by the Executive Officer. The request shall include a description of the zero-emission buses, the zero-emission technology utilized, and the number of zero-emission buses to be used in calculating the NOx fleet average standard. Zero-emission buses not meeting the definition of an urban bus may not be used to satisfy the requirements of the Zero-emission Bus Demonstration Project set forth in subdivision (b) of section 2023.3, title 13, CCR.
- (2) Transit agencies may use ARB-certified NOx retrofit systems to comply with the fleet average requirement (in addition to bus purchases, repowerings, and retirements).
- (3) Transit agencies have the option of retiring all 1987 and earlier model year diesel urban buses by October 1, 2002, to comply with the fleet average standard requirement.
- (4) A transit agency established after January 1, 2005, shall not operate an active fleet of urban buses with an average NOx emission in excess of:
 - (A) 4.0 g/bhp-hr, or
 - (B) the NOx average of the active fleet of the transit agency from which it was formed, whichever is lower, or
 - (C) in the case of a merger of two or more transit agencies or parts of two or more transit agencies, the average of the NOx fleet averages, whichever is lower.
- (e) To reduce public exposure to diesel particulate matter, each transit agency shall reduce the diesel PM emission total of the diesel buses in its active fleet relative to its diesel PM emission total as of January 1, 2002, according to the schedule below, and shall operate its diesel buses on diesel fuel with a maximum sulfur content of 15 parts per million by weight. Documentation of compliance with these requirements must be provided in accordance with the provisions of subdivision (d) of section 2023.4, title 13, CCR.
- (1) No later than January 1, 2004:

- (A) The diesel PM emission total for a transit agency on the diesel path shall be no more than 60 percent of its diesel PM emission total on January 1, 2002.
 - (B) The diesel PM emission total for a transit agency on the alternative fuel path shall be no more than 80 percent of its diesel PM emission total on January 1, 2002.
- (2) No later than January 1, 2005:
 - (A) The diesel PM emission total for a transit agency on the diesel path shall be no more than 40 percent of its diesel PM emission total on January 1, 2002.
 - (B) The diesel PM emission total for a transit agency on the alternative fuel path shall be no more than 60 percent of its diesel PM emission total on January 1, 2002.
- (3) No later than January 1, 2007:
 - (A) The diesel PM emission total for a transit agency on the diesel path shall be no more than 15 percent of its diesel PM emission total on January 1, 2002 or equal to 0.01 g/bhp-hr times the total number of current diesel-fueled active fleet buses, whichever is greater.
 - (B) The diesel PM emission total for a transit agency on the alternative fuel path shall be no more than 40 percent of its diesel PM fleet average on January 1, 2002.
- (4) No later than January 1, 2009, the diesel PM emission total for a transit agency on the alternative fuel path shall be no more than 15 percent of its diesel PM emission total on January 1, 2002 or equal to 0.01 g/bhp-hr times the total number of current diesel-fueled active fleet buses, whichever is greater.
- (5) Beginning on January 1, 2005, a new transit agency may not have a diesel PM emission total exceeding the following values:
 - (A) As of January 1, 2005 through December 31, 2009, 0.05 g/bhp-hr (exhaust emission value) times the total number of diesel-fueled buses in the active fleet;
 - (B) As of January 1, 2010, 0.01 g/bhp-hr (exhaust emission value) times the total number of diesel-fueled buses in the active fleet.
- (6) Beginning July 1, 2002, a transit agency shall not operate its diesel urban buses on diesel fuel with a sulfur content in excess of 15 parts per million by weight, except that a transit agency may operate its diesel buses on a fuel that is verified by the Executive Officer as a diesel emission control

strategy that reduces PM in accordance with section 2700 et seq., title 13, CCR. A transit agency with fewer than 20 buses in its active fleet, and that operates in a federal one-hour ozone attainment areas, is not subject to this low-sulfur fuel requirement until July 1, 2006. In areas redesignated as one-hour ozone non-attainment areas prior to July 1, 2006, a transit agency initially exempt from the low-sulfur fuel requirement shall submit a plan to the Executive Officer within 30 days of redesignation for achieving compliance with this requirement.

NOTE: Authority cited: Sections 39600, 39601, 39667, 43013, 43018 and 43701(b), Health and Safety Code. Reference: Sections 39002, 39003, 39017, 39500, 39650, 39667, 40000, 43000, 43000.5, 43013, 43018, 43701(b), 43801, 43806 Health and Safety Code, and sections 233 and 28114, Vehicle Code.

[Included for context only]

§ 2023.2 Fleet Rule for Transit Agencies – Transit Fleet Vehicle Requirements.

- (a) A transit agency shall not operate transit fleet vehicles with a NOx fleet average exceeding the following values as of the specified dates. A transit agency shall provide documentation of compliance with the requirements in accordance with the provisions of subdivision (e)(2) of section 2023.4, title 13, CCR.
 - (1) Beginning December 31, 2007 through December 30, 2010, 3.2 g/bhp-hr;
 - (A) A transit agency may retire all 1997 and earlier model year engines in transit fleet vehicles by December 31, 2007, to comply with the NOx fleet average requirement.
 - (B) For a new transit agency established after December 31, 2007 and through December 31, 2009, either 3.2 g/bhp-hr or no higher than the NOx average of the transit fleet vehicles of the transit agency from which the new transit agency has been formed, whichever is lower.
 - (2) Beginning December 31, 2010, 2.4 g/bhp-hr;
 - (A) A transit agency may retire all 2001 and earlier model year engines in transit fleet vehicles by December 31, 2010, to comply with the NOx fleet average requirement.
 - (B) For a new transit agency established after December 31, 2010, either 2.4 g/bhp-hr or no higher than the NOx average of the transit fleet vehicles of the transit agency from which the new transit agency has been formed, whichever is lower.
 - (3) Zero-emission buses used to satisfy the requirements set forth in subdivision (d) of section 2023.1 may not be used to meet the requirements of this subdivision.
 - (4) A transit agency may claim NOx reductions by application of a system that has been verified by the Executive Officer in accordance with section 2700 et seq., title 13, CCR to comply with the fleet average requirement, in addition to transit fleet vehicle purchases, retirements, or engine repowering.
- (a) A transit agency shall reduce the total diesel particulate matter (PM) emissions of its diesel transit fleet vehicles relative to its total diesel PM emissions from diesel transit fleet vehicles as of January 1, 2005, according to the schedule below. "Diesel PM emission total" and how it is calculated are defined in 2023(a)(3). A transit agency shall provide documentation of compliance with these

requirements in accordance with the provisions of subdivision (e)(3) of section 2023.4, title 13, CCR.

- (1) No later than December 31, 2007, the diesel PM emission total for a transit agency's transit fleet vehicle fleet shall be no more than 60 percent of its diesel PM emission total on January 1, 2005.
- (2) No later than December 31, 2010, the diesel PM emission total for a transit agency's transit fleet vehicle fleet shall be no more than 20 percent of its diesel PM emission total on January 1, 2005, or equal to 0.01 g/bhp-hr times the total number of transit fleet vehicles in the current fleet, whichever is greater.
- (3) A new transit agency established after January 1, 2005, may not have a diesel PM emission total exceeding the following values:
 - (A) For a new transit agency established January 1, 2005 through December 31, 2006, 0.1 g/bhp/hr (exhaust emission value) times the number of diesel-fueled transit fleet vehicles in its fleet. This value will serve as the transit agency's PM baseline. The transit agency must meet the requirements set forth in section 2023.2(b)(1) and (2).
 - (B) For a new transit agency established January 1, 2007 through December 31, 2009, 0.1 g/bhp/hr (exhaust emission value) times the number of diesel-fueled transit fleet vehicles in its fleet. This value will serve as the transit agency's PM baseline and shall be reduced by 50 percent of its PM baseline value by December 31, 2010, and 80 percent by December 31, 2012.
 - (C) For a new transit agency established January 1, 2010 or later, 0.01 g/bhp-hr (exhaust emission value) times the total number of diesel transit fleet vehicles in its fleet.
- (c) A transit agency may apply to the Executive Officer for a delay in meeting the provisions of section 2023.2(a) and 2023.2(b) for up to one year to allow for the termination of a vehicle lease, maintenance/lease, turnkey or vehicle/service contract as defined by the Federal Transit Administration (FTA). The transit agency shall apply to the Executive Officer no later than 90 days prior to the applicable deadlines and shall include a description of the reason the delay is required, the reason the contractor cannot provide a newer vehicle to replace an existing vehicle within the terms of the contract, and provide a schedule for compliance by the end of the compliance extension.

NOTE: Authority cited: Sections 39600, 39601, 39659, 39667, 39701, 41511, and 43018 Health and Safety Code. Reference: Sections 39667, 39700, 39701, 41510, 41511, 43000, 43000.5, 43013, 43018, 43801, and 43806 Health and Safety Code.

§ 2023.3 Zero-Emission Bus Requirements.

- (a) "Zero-emission bus" means an Executive Officer certified urban bus that produces zero exhaust emissions of any criteria pollutant (or precursor pollutant) under any and all possible operational modes and conditions.
- (1) A hydrogen-fuel cell bus shall qualify as a zero-emission bus.
 - (2) An electric trolley bus with overhead twin-wire power supply shall qualify as a zero-emission bus.
 - (3) A battery electric bus shall qualify as a zero-emission bus.
 - (4) Incorporation of a fuel-fired heater shall not preclude an urban bus from being certified as a zero-emission bus, provided the fuel-fired heater cannot be operated at ambient temperatures above 40°F and the heater is demonstrated to have zero evaporative emissions under any and all possible operational modes and conditions.
- (b) ~~Zero-emission Bus Demonstration Project~~ Zero-Emission Bus Demonstration Projects. —except as provided in (3) below, the owner or operator of an urban bus fleet on the diesel path in accordance with the provisions of section 2023.1, with more than 200 urban transit buses in its active fleet on January 31, 2001, shall implement a demonstration project. The owner or operator shall evaluate the operation of zero-emission buses in revenue service, and prepare and submit a report on the demonstration project to the Executive Officer for inclusion in a future review of zero-emission technology.

(1) Initial Demonstration Project.

- (A) Except as provided in (D) below, the owner or operator of an urban bus fleet on the diesel path in accordance with the provisions of section 2023.1, with more than 200 urban transit buses in its active fleet on January 31, 2001, shall implement an Initial Demonstration Project in accordance with this subsection (b)(1). The owner or operator shall evaluate the operation of zero-emission buses in revenue service, and prepare and submit a report on the demonstration project to the Executive Officer for inclusion in a future review of zero-emission technology.

~~(B)(4)~~ This Initial Demonstration Project shall meet all of the following specifications and requirements:

- ~~(A)~~ 1. utilize a minimum of three zero-emission buses,

- ~~(B)~~2. include any necessary site improvements,
- ~~(C)~~3. locate fueling infrastructure onsite,
- ~~(D)~~4. provide appropriate maintenance and storage facilities,
- ~~(E)~~5. train bus operators and maintenance personnel,
- ~~(F)~~6. place the buses in revenue service for a minimum duration of 12 calendar months,
- ~~(G)~~7. retain operation and maintenance records, and
- ~~(H)~~8. report on the demonstration as set forth in subdivision (f) of section 2023.4, title 13 CCR.

(C)~~(2)~~ When planning and implementing the Initial Demonstration Project, the operator or owner shall meet the following milestones:

- ~~(A)~~1. no later than January 1, 2002, prepare and solicit bid proposals for materials and services necessary to implement the demonstration project, including but not limited to the zero-emission buses and the associated infrastructure
- ~~(B)~~2. no later than February 28, 2006, place at least three zero-emission buses in operation, and
- ~~(C)~~3. no later than July 31, 2005, submit a preliminary report on the demonstration project to the Executive Officer, in accordance with paragraph (f)(3) of section 2023.4, title 13, CCR and,
- ~~(D)~~4. no later than July 31, 2007, submit a report on the demonstration project to the Executive Officer, in accordance with paragraph (f)(4) of section 2023.4 ~~¶~~title 13, CCR.

(D) ~~(3)~~ Multiple transit agencies within the same air basin may, on a case-by-case basis, petition the Executive Officer to implement a joint zero-emission bus demonstration project. Electric trolley buses shall not qualify as zero-emission buses for purposes of this joint demonstration project. No more than three transit agencies can participate in any one joint project. Transit agencies that are participating in a joint demonstration project shall:

- ~~(A)~~1. designate the agency hosting the onsite demonstration,
- ~~(B)~~2. jointly fund the demonstration project, and
- ~~(C)~~3. place a minimum of three zero-emission buses per demonstration project in revenue service.

(2) Advanced Demonstration Project.

(A) Except as provided in (G) and (H) below, the owner or operator of an urban bus fleet in accordance with the provisions of section 2023.1, with more than 200 urban buses in active service on January 1, 2007, for transit agencies on the diesel path, and January 1, 2008, for transit agencies on the alternative fuel path,

shall implement an Advanced Demonstration Project. The owner or operator shall evaluate the operation of zero –emission buses in revenue service, prepare and submit a report on the demonstration project to the Executive Officer.

- (B) Alternative fuel path transit agencies may choose one of three following options:
1. Follow the single or joint path demonstration as described in 2023.3 (2) (D) of this section,
 2. Follow the single or joint path demonstration with no more than half of the required zero emission buses converted to the zero emission enabling option as described in 2023.3 (2) (H) of this section,
 3. Opt out of the advanced demonstration project and align their purchase requirement dates with the diesel path transit agencies. Notification of this option must be received in writing on January 1, 2008.
- (C) A diesel fuel path transit agencies may choose to follow the single or joint path demonstration as described in 2023.3 (2) (D).
- (D) Transit agencies choosing to participate in a single transit agency Advanced Demonstration Project, shall meet all of the following specifications and requirements:
1. Utilize a minimum of six zero-emission buses, or alternative fuel path transit agencies may opt to include zero emission enabling buses as set forth in section 2023.3 (H),
 2. Provide appropriate maintenance and storage facilities,
 3. Train bus operators and maintenance personnel,
 4. Place the buses in revenue service for a minimum duration of 12 calendar months after delivery of all demonstration buses,
 5. Retain operation and maintenance records, and
 6. Report on the demonstration program as set forth in subdivision (f) of section 2023.4, title 13 CCR.
- (E) When planning and implementing the Advanced Demonstration Project for transit agencies on the diesel path, the operator or owner shall meet the following milestones:
1. No later than January 1, 2009, place at least six zero emission buses in operation,
 2. No later than July 1, 2009, submit a preliminary report on the demonstration project to the Executive Officer, in accordance with paragraph (f)(3) of section 2023.4, title 13, CCR, and
 3. Submit a report no later than January 1, 2010, on the demonstration project to the Executive Officer, in accordance with paragraph (f) (4) of section 2023.4 title 13 CCR.
- (F) When planning and implementing the Advanced Demonstration Project for transit agencies on the alternative-fuel path, the operator or owner shall meet the following milestones:

1. No later than January 1, 2010, place at least six zero emission buses in operation.
 2. No later than July 1, 2010, submit a preliminary report on the demonstration project to the Executive Officer, in accordance with paragraph (f)(3) of section 2023.4 title 13 CCR.
 3. Submit a report no later than January 1, 2011, on the demonstration project to the Executive Officer, in accordance with paragraph (f)(4) of section 2023.4 title 13 CCR.
- (G) Multiple transit agencies may, on a case-by-case basis, petition the Executive Officer to implement a joint zero emission bus demonstration project. Transit agencies that are participating in a joint demonstration project shall:
1. Jointly fund the demonstration project.
 2. Utilize a minimum of 12 zero emission buses in revenue service, or alternative fuel path transit agencies may opt to include zero emission enabling buses as set forth in section 2023.3(b)(H).
 3. Operate the demonstration at a transit agency affected by the zero emission bus regulation.
 4. Purchase and put in revenue service a minimum of three zero emission buses per transit agency.
 5. Place the buses in revenue service for a minimum duration of 12 calendar months after delivery of all demonstration buses.
 6. Provide appropriate maintenance and storage facilities
 7. Train bus operators and maintenance personnel from each participating transit agency.
- (H) Zero emission enabling buses must meet following criteria
1. The purpose of the zero emission enabling bus demonstration is to demonstrate low emission technologies and zero emission enabling technology simultaneously
 2. Buses must have been certified or are in the process of being certified by the ARB to meet the applicable 2010 engine emission standards.
 3. Must present data that demonstrates that the engine emissions are at or below 50% of the applicable 2010 standard.
 4. Must operate on a fuel or a blend containing a fuel that is used in a zero emission bus.
 5. The Executive Officer may, if presented with appropriate data, determine another advanced technology to be certifiable as a zero emission enabling bus.
 6. Only applicable during the advanced demonstration.
 7. Zero emission enabling buses shall replace zero emission buses by at least a three to one ratio.

8. Zero emission enabling buses do not qualify as zero emission buses or earn credits towards the purchase requirement.
9. Transit agencies must submit a plan by January 1, 2008, to the Executive Officer detailing the number and technology of the zero emission enabling buses and expected emission levels. The manufacturer(s) of the zero emission enabling buses must have a viable and complete application submitted for the verification/certification process as described in section 1956.8.

(c) ~~Purchase Requirement for Zero-emission Buses~~– Purchase Requirement for Zero-Emission Buses. The owner or operator of a transit agency with more than 200 urban buses in active service on January 1, 2007, for transit agencies on the diesel path, and January 1, 2009, for transit agencies on the alternative-fuel path, shall purchase and/or lease zero-emission buses, in accordance with the following paragraphs. In addition, the status of transit agencies shall be reviewed annually starting in 2009 in accordance with section 2023.3(d).

- (1) For transit agencies on the diesel path, in accordance with the requirements in section 2023.1, a minimum 15 percent of purchase and lease agreements, when aggregated annually, for model year ~~2008~~ 2011 through model year ~~2015~~ 2026 urban buses shall be zero-emission buses as per 2023.4 (g).
- (2) For transit agencies on the alternative-fuel path, in accordance with the requirements in section 2023.1, a minimum 15 percent of purchase and lease agreements, when aggregated annually, for model year ~~2010~~ 2011 through model year ~~2015~~ 2026 urban buses shall be zero-emission buses as per 2023.4 (g).
- (3) The provisions of paragraphs (1) and (2) shall not apply if the operator's urban bus fleet is composed of 15 percent or more zero-emission buses on January 1, 2008, for transit agencies on the diesel path, and on January 1, 2010, for transit agencies on the alternative-fuel path, or at any time thereafter.
- (4) ~~(A)~~Earning Credits
 - (A) Transit agencies on either the diesel path or alternative-fuel path may earn credits for use in meeting the purchase requirements for zero-emission buses specified in paragraphs (c)(1) and (c)(2) by placing zero-emission buses in service prior to the dates specified in paragraphs (c)(1) and (c)(2). For each zero-emission bus placed into early service and above what is required by section 2023.3 in paragraphs (b)(2), (c)(1) and (c)(2), credits shall be accrued

according to the following table. Each earned credit is equivalent to one zero-emission bus.

Path	Credits per Year Placed					
	<u>2000-2003</u> <u>7</u>	<u>2004-2005</u> <u>8</u>	<u>2006</u> <u>9</u>	<u>2007</u> <u>10</u>	<u>2007</u> <u>11</u>	<u>2009</u>
Diesel	<u>3</u> <u>2.5</u>	<u>2</u> <u>.5</u> <u>2</u>	<u>2</u> <u>1.5</u>	1.5	-	-
Alternative-fuel	<u>3</u> <u>2.5</u>	<u>2</u> <u>.5</u> <u>2</u>	2	1.5	1.5	4

(B) Zero-emission buses placed in service to meet the zero-emission bus initial demonstration projects as specified in subdivision (b)(1) are not permitted to accrue credits towards the zero-emission bus purchase requirements, unless upgraded with technology advancements to make them comparable to vehicles available for the advanced demonstration. One credit shall be earned for each bus.

(C) Zero-emission buses placed in service to meet the advanced demonstration projects as specified in subdivision (b)(2) can accrue purchase credit towards the zero emission purchase requirements. For each zero emission bus required by the advanced demonstration, credit shall be accrued according to the following table. Each earned credit is equivalent to one zero emission bus.

Path	Credits per Year Placed for Advanced Demonstration Zero Emission Buses			
	<u>2007</u>	<u>2008</u>	<u>2009</u>	<u>2010</u>
<u>Diesel</u>	<u>2</u>	<u>1.5</u>	<u>1</u>	<u>1</u>
<u>Alternative Fuel</u>	<u>2</u>	<u>1.5</u>	<u>1.5</u>	<u>1</u>

(d) The Air Resources Board shall review zero-emission bus technology and the feasibility of implementing the requirements of subdivision (c) above no later than January 2006July 2009. Based on that assessment, the ~~Board~~ Executive Officer shall decide whether to proceed with the implementation of subdivision (c) or reduce the requirements based on the following table.

	<u>Purchase Requirement for Zero Emission Buses</u>		
	<u>15%</u>	<u>8%</u>	<u>2%</u>
<u>Purchase Cost Fuel Cell vs. Electric Trolley Bus</u>	<u>1.25 : 1</u>	<u>1.75 : 1</u>	<u>3 : 1</u>
<u>Fuel Cell Durability or Warranty</u>	<u>20,000 hours</u>	<u>15,000 hours</u>	<u>3,000 hours</u>
<u>Reliability (Miles between Propulsion Related Road Calls) or Availability for Service (%)</u> *	<u>10,000 miles</u> <u>or</u> <u>80%</u>	<u>7,500 miles</u> <u>or</u> <u>70%</u>	<u>4,000 miles</u> <u>or</u> <u>60%</u>

* Only one parameter needs to be met.

NOTE: Authority cited: Sections 39600, 39601, 43013, 43018, 43100, 43101, 43104 and 43806, Health and Safety Code. Reference: Sections 39002, 39003, 39017, 39018, 39500, 39701, 40000, 43000, 43000.5, 43009, 43013, 43018, 43102, 43801 and 43806 Health and Safety Code, and section 28114 Vehicle Code.

§ 2023.4 Reporting Requirements for Transit Agencies.

- (a) The following reports on new urban bus purchases and/or leases by transit agencies on the alternative-fuel path shall be submitted as described below:
 - (1) The initial report shall be submitted by January 31, 2001, and shall state the transit agency's intent to follow the alternative-fuel path.
 - (2) Any requests for deviation from the requirement that 85 percent of buses purchased per year must be alternative-fuel buses must be submitted in writing and approved by the Executive Officer of the Air Resources Board 90 days prior to purchase. The written request must include the reason for requesting the deviation from the 85 percent annual purchase requirement and the transit agency's future planned alternative-fuel bus purchases.
 - (3) Each transit agency shall submit an annual report containing: the number, manufacturer, make, and model year of engines, and fuel used for each urban bus it currently owns or operates, urban bus purchases and/or leases beginning January 1, 2000, and annual average percentage of total urban bus purchases and/or leases that were alternative-fuel buses. The first report shall be submitted by January 31, 2001. Subsequent reports shall be submitted annually by January 31 through the year 2016. For transit agencies operating 150 or more urban buses, reports shall be submitted annually by January 31st through the year 2027.
- (b) The following reports on new urban bus purchases and/or leases by transit agencies on the diesel path shall be submitted as described below:
 - (1) The initial report shall be submitted by January 31, 2001, and shall state the transit agency's intent to follow the diesel path.
 - (2) Each transit agency shall submit an annual report containing the number, manufacturer, make, and model year of engines, and fuel used for each urban bus it currently owns or operates, and urban bus purchases and/or leases beginning January 1, 2000. The first report shall be submitted by January 31, 2001. Subsequent reports shall be submitted annually by January 31 through the year 2016. For transit agencies operating 150 or more urban buses, reports shall be submitted annually by January 31st through the year 2027.
 - (3) A transit agency within the jurisdiction of the South Coast Air Quality Management District that chooses to change from the diesel path to the alternative fuel path in accordance with paragraph (a)(2) of section-2023.1,

title 13, CCR, must submit to the Executive Officer a letter of intent to follow the alternative fuel path no later than January 31, 2004. The letter of intent shall contain a statement certifying that the transit agency is in compliance with all provisions of the fleet rule for transit agencies on or before January 1, 2004.

- (4) *As set forth in section 2023.1(a)(5), transit agencies with more than 30 buses in their fleet that purchase model-years 2007 through 2009 urban buses not certified at or below 0.2 g/bhp-hr NOx emissions shall submit the following information for each urban bus purchased: the manufacturer, make, and model year of the engine of the urban bus or transit fleet vehicle retrofitted and for each diesel emission control strategy applied, the date of installation, the device's product serial number, and its Diesel Emission Control Strategy Family Name in accordance with the requirements of section 2705(g)(2), title 13, CCR. The first report shall be submitted by January 31, 2007. Subsequent reports shall be submitted annually by January 31 through the year 2016.*
- (c) Each transit agency shall submit the following reports on the urban bus NOx fleet average requirement:
 - (1) Initial documentation shall be submitted by January 31, 2001, and contain, at a minimum, the active urban bus fleet NOx emission average, and if that number exceeds the average required in subdivision (d), section 2023.1, title 13, CCR, a schedule of actions planned to achieve that average by October 1, 2002, including numbers and model years of bus purchases, retirements, retrofits, and/or repowerings, or shall indicate the intent of the transit agency to retire all model year 1987 and earlier buses in its active fleet by October 1, 2002.
 - (2) A final report shall be submitted by January 31, 2003, detailing the active urban bus fleet NOx emission average as of October 1, 2002, and actions, if any were needed, taken to achieve that standard, including numbers and model years of bus purchases, retirements, retrofits, and/or repowerings, or documenting the retirement of all model year 1987 and earlier buses.
- (d) Each transit agency shall submit the following reports on the total diesel PM emission reduction requirements for urban buses:
 - (1) An initial annual report shall be submitted by January 31, 2003 and shall contain, at a minimum, the following information:
 - (A) number, manufacturer, make, and model year of diesel-fueled, dual-fuel, bi-fuel (except for heavy-duty pilot ignition engines), and diesel hybrid-electric engines in urban buses in the active fleet; the

PM engine certification value of each of those bus engines; the diesel PM emission total for the diesel buses in the active fleet; and the diesel PM emission total for the baseline date of January 1, 2002.

- (B) For each urban bus for which a diesel emission control strategy has been applied, the device's product serial number; its Diesel Emission Control Strategy Family Name in accordance with the requirements of section 2705(g)(2), title 13, CCR; and the date of installation.
- (2) Annual reports shall be submitted each year beginning January 31, 2004 and each January 31 thereafter, through 2009, and shall contain the information required in paragraphs (d)(1)(A) and (B) above plus the total percentage reduction of PM achieved from the baseline diesel PM emission total as of January 1 of each applicable year.
- (e) Each transit agency shall submit the following reports for its transit fleet vehicles:
 - (1) An annual report of the number, manufacturer, make, and model year of engines and fuel used for each transit fleet vehicle it currently owns, leases, or operates as of January 1st of each year, beginning in 2006. The first report shall be submitted by January 31, 2006, and subsequent reports shall be submitted annually by January 31st through the year 2016.
 - (2) For the NOx fleet average reduction requirements set forth in section 2023.2(a):
 - (A) A report submitted by January 31, 2006, must contain at a minimum, the transit vehicle fleet NOx emission average. If that number exceeds the average required in section 2023.2(a)(1), the report must include a schedule of actions planned to achieve compliance by December 31, 2007.
 - (i) ~~(1)~~ If a change to the compliance schedule occurs that results in noncompliance, the transit agency must notify the Executive Officer within 30 days.
 - (ii) ~~(2)~~ Notification to the Executive Officer must include a revised schedule showing how the agency will be in compliance within 90 days of the schedule change that caused noncompliance.
 - (B) A report submitted by January 31, 2008, must contain, details of the transit fleet vehicle fleet NOx emission average as of December 31, 2007, or must document the retirement of all model year 1997 and earlier transit fleet vehicle engines by December 31, 2007.

- (C) A report submitted by January 31, 2009, must contain at a minimum, the transit vehicle fleet NOx emission average. If that number exceeds the average required in section 2023.2(a)(1), the report must include a schedule of actions planned to achieve compliance by December 31, 2007.
 - (i) ~~(1)~~ If a change to the compliance schedule occurs that results in noncompliance, the transit agency must notify the Executive Officer within 30 days.
 - (ii) ~~(2)~~ Notification to the Executive Officer must include a revised schedule showing how the agency will be in compliance within 90 days of the schedule change that caused noncompliance.
 - (D) A final report submitted by January 31, 2011 must contain details the transit fleet vehicle fleet NOx emission average as of December 31, 2010, or must document the retirement of all model year 2001 and earlier transit fleet vehicle engines by December 31, 2010.
- (3) For the total diesel PM reduction requirements set forth in section 2023.2(b):
- (A) An initial report submitted by January 31, 2006, must contain the PM engine certification value of each transit fleet vehicle engine and the transit fleet vehicle diesel PM total as of January 1, 2005.
 - (B) A report submitted by January 31, 2008, must contain the transit fleet vehicle diesel PM total as of December 31, 2007, and the percentage diesel PM reduced, documenting compliance with the requirement in section 2023.2(b)(1).
 - (C) A final report submitted by January 31, 2011, of the transit fleet vehicle diesel PM total as of December 31, 2010, and the percentage diesel PM reduced, documenting compliance with the requirement in section 2023.2(b)(2).
 - (D) For each transit fleet vehicle for which a diesel emission control strategy has been applied, each report specified above must include the strategy's product serial number; its Diesel Emission Control Strategy Family Name in accordance with the requirements of section 2705(g)(2), title 13, CCR; and the date of installation correlated to a specific transit fleet vehicle engine.
- (f) The following reports on the zero-emission bus demonstration program shall be submitted by those transit agencies required to conduct such demonstrations, as described below:
- (1) Initial documentation shall be submitted by January 31, 2003, and contain, at a minimum, the bus order and delivery schedule, fuel type,

type of refueling station, any planned facility modifications, and a revenue service demonstration plan;

- (2) A financial plan shall be submitted by January 31, 2003, and contain, at a minimum, projected expenditures for capital costs for purchasing and/or leasing buses, refueling stations, any facility modifications, and projected annual operating costs;
- (3) A preliminary report shall ~~be submitted by July 31, 2005~~ and contain, at a minimum, the following information:
 - (A) a brief description of the zero-emission technology utilized, identification of the bus manufacturer, and the product specifications;
 - (B) miles driven per bus in revenue and non-revenue service, safety incidents, and maintenance (both scheduled and unscheduled);
 - (C) qualitative transit personnel and passenger experience; and
 - (D) a financial summary of the capital costs of bus purchases and/or leases and fueling infrastructure.
- (4) A final report shall ~~be submitted by July 31, 2007, and~~ contain, at a minimum, the following information:
 - (A) a brief description of the zero-emission technology utilized, identification of bus manufacturer and product specifications,
 - (B) miles driven per bus in revenue service, miles between propulsion related road calls, miles between road calls, bus down time (scheduled and unscheduled), safety incidents, driver and mechanic training conducted, and maintenance (both scheduled and unscheduled),
 - (C) qualitative transit personnel and passenger experience, and a financial summary of capital costs of demonstration program, including bus purchases and/or leases, fueling infrastructure, any new facilities or modifications, and annual operating costs.
- (g) The following reports on new zero-emission bus purchases and/or leases shall be submitted by transit agencies required to purchase zero-emission buses as described below:

- (1) ~~Initial report shall be submitted by January 1, 2007 for transit agencies on the diesel path, and by January 1, 2009, for transit agencies on the alternative-fuel path.~~ The initial report shall contain, at a minimum, the following information:
 - (A) a brief description of the zero-emission technology to be utilized and a plan for the implementation of the requirement,
 - (B) for an exemption from the purchase requirement, documentation that 15 percent or more of the transit agency's active urban bus fleet is composed of zero-emission buses.
- (2) Any requests for deviation from the requirement that 15 percent of buses purchased per year must be zero-emission buses must be submitted in writing and approved by the Executive Officer of the Air Resources Board 90 days prior to a transit agency submitting a purchase order(s) reflecting the purchase deviation. The written request shall include the reason for requesting the deviation and the transit agency's future planned zero-emission bus purchases.
- (3) Transit agencies on the diesel path shall include in the annual reports required in paragraph (b)(2): zero-emission bus purchases and/or leases beginning with model year 2008 and through model year ~~2015~~2026, and the annual average percentage of total bus purchases and/or leases that were zero-emission buses.
- (4) Transit agencies on the alternative-fuel path shall include in the annual reports required in paragraph (a)(3): zero-emission bus purchases and/or leases beginning with model year ~~2008~~2010 and through model year ~~2015~~2026, and the annual average percentage of total bus purchases and/or leases that were zero-emission buses.
- (h) Transit agencies exempted from the requirements of paragraphs (b)(5) and (c)(4), section 2023.1, title 13, CCR, shall submit annual reports demonstrating that they are achieving NOx emission benefits required in paragraphs (b)(8)(B) and (c)(7)(B), section 2023.1, title 13, CCR. The first report shall be submitted by January 31, 2005. Subsequent reports shall be submitted annually by January 31 through the year 2016.
- (i) A transit agency requesting approval for the purchase of diesel-fueled hybrid-electric buses pursuant to paragraph (c)(9), section 2023.1, title 13, CCR, shall:
 - (1) submit an application for approval that meets the requirements of paragraphs (c)(9)(A) and (c)(9)(B), section 2023.1, title 13, CCR;

- (2) include in the application all of the following: the number, manufacturer, make and model year of diesel-fueled hybrid-electric buses to be purchased; the schedule for the purchase and delivery of the buses; a detailed description of all measures that will be used to offset the excess NOx emissions including identification of the specific buses to which the measures will be applied, and the schedule for implementing those measures; and
 - (3) submit a final report to the Executive Officer within 30 days of receipt of the last diesel-fueled hybrid-electric bus that documents the schedule of delivery of the diesel-fueled hybrid-electric buses, timing, and completion of all measures to achieve the NOx offset.
- (j) A new transit agency shall submit the following information to the Executive Officer:
- (1) within 60 days of formation, the name of the new transit agency, its mailing address, name of a contact person and that person's e-mail address and phone number; a description of the service area and proposed routes; and the planned number of urban buses and transit fleet vehicles, including model years of engines;
 - (2) within 120 days of formation, its NOx fleet average for its active fleet and, separately, its transit fleet vehicles, and its diesel PM emission total for its active fleet and , separately, its diesel PM emission total for its transit fleet vehicles.
- (k) ~~(4)~~ Failure to submit complete reports
- (1) A transit agency that fails to submit a complete report in accordance with this section is subject to civil penalties of not less than \$100 per day for every day past January 31 of each reporting year through 2016. For transit agencies with more than 150 urban buses civil penalties of not less than \$100 per day for every day past January 31 shall continue for each reporting year through 2027.
 - (2) A new transit agency that fails to submit its report or required information in accordance with this section is subject to civil penalties of not less than \$100 per day for every day past the required reporting dates in section 2023.4(j).
 - (3) A report that does not contain all required information will not be considered complete. A report will be considered to be complete as of the date that all required information is submitted.

NOTE: Authority cited: Sections 39600, 39601, 39659 and 39667, Health and Safety Code. Reference: Sections 39667, 39700, 39701, 41510, 41511, 43000, 43000.5, 43013, 43018, 43801 and 43806 Health and Safety Code.